AMENDMENT

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A method for generating a domain patterned ~~Ferroelectric~~ ferroelectric structure comprising:
   a. depositing a conductive layer on a top surface of a ~~Ferroelectric~~ ferroelectric material and a bottom surface of a ~~Ferroelectric~~ ferroelectric material, the top surface and the bottom surface of the ~~Ferroelectric~~ ferroelectric material corresponding to surfaces substantially normal to the z-polarization vectors of the ~~Ferroelectric~~ ferroelectric material;
   b. applying a sufficient bias voltage across the conductive layer on the top surface and the conductive layer on the bottom surface to pole the z-polarization vectors into a first orientation; and
   c. applying a sufficient bias voltage to selected portions of the conductive layer on the top surface on the ~~Ferroelectric~~ ferroelectric material and the conductive layer on the bottom surface of the ~~Ferroelectric~~ ferroelectric material to orient corresponding portions of the z-polarization vectors to a second orientation.

2. (currently amended) The method of claim 1, wherein the conductive layer comprises a conductive polymer in contact with the top surface and the bottom surface of the ~~Ferroelectric~~ ferroelectric material.

3. (original) The method of claim 2, wherein the conductive polymer comprises is n–Methyl pyrrolidone.

4. (original) The method of claim 2, wherein the conductive layer further comprises a salt

5. (original) The method of claim 4, wherein the salt is a polyaniline salt.

6. (original) The method of claim 2, wherein the conductive layer further comprises a metal deposited onto the conductive polymer.

7. (currently amended) The method of claim 1, wherein the selected portions of the conductive layer on the top surface of the ~~Ferroelectric~~ ferroelectric material are selected by patterning the conductive layer on the top surface of the ~~Ferroelectric~~ ferroelectric material.

8. (currently amended) The method of claim 7, wherein the conductive layer on the top surface of the ~~Ferroelectric~~ ferroelectric material is patterned by:
   a. forming a mask over the conductive layer on the top surface of the ~~Ferroelectric~~ ferroelectric material;
   b. selectively removing the exposed portion of the conductive layer on the top surface of the ~~Ferroelectric~~ ferroelectric material; and
   c. removing the mask.

9. (original) The method of claim 8, wherein the mask is formed from a photo-resist.

10. (currently amended) The method of claim 9, wherein the mask is formed by:
   a. depositing the photo-resist on the conductive layer on the top surface of the ~~Ferroelectric~~ ferroelectric material;
   b. exposing areas of the photo-resist with a light source according to a predetermined pattern; and
   c. developing the photo-resist to remove the unexposed portions of the photo-resist.

11. (currently amended) The method of claim 1, further comprising the steps of placing the conductive layer on the top surface of the ~~Ferroelectric~~ ferroelectric material and the conductive layer on the bottom surface of the ~~Ferroelectric~~ ferroelectric material in electrical communication.

12. (currently amended) The method of claim 11, wherein the step of placing the conductive layer on the top surface of the ~~Ferroelectric~~ ferroelectric material and the conductive layer

on the bottom surface of the ~~Ferroelectric~~ ferroelectric material in electrical communication is performed after applying the sufficient bias voltage across the conductive layer on the top surface and the conductive layer on the bottom surface to pole the z-polarization vectors into the first orientation.

13. (currently amended) The method of claim 11, wherein the conductive layer on the top surface of the ~~Ferroelectric~~ ferroelectric material and the conductive layer on the bottom surface of the ~~Ferroelectric~~ ferroelectric material are placed in electrical communication by applying a conductive polymer to side surfaces of the ~~Ferroelectric~~ ferroelectric material.

14. (currently amended) The method of claim 13, further comprising:

a. removing the conductive polymer from the side surfaces of the ~~Ferroelectric~~ ferroelectric material prior to applying the sufficient bias voltage to selected portions of the conductive layer on the top surface and the conductive layer on the bottom surface of the ~~Ferroelectric~~ ferroelectric material; and

b. reapplying the conductive polymer to the side surfaces of the ~~Ferroelectric~~ ferroelectric material after applying the sufficient bias voltage to the selected portions of the conductive layer on the top surface of the ~~Ferroelectric~~ ferroelectric material and the conductive layer on the bottom surface of the ~~Ferroelectric~~ ferroelectric material.

15. (currently amended) The method of claim 1, wherein the ~~Ferroelectric~~ ferroelectric material is a wafer structure comprising Lithium.

16. (original) The method of claim 15, wherein the wafer further comprises an element selected from the group consisting of Tantalum and Niobium.

17. (currently amended) The method of claim 1, wherein the ~~Ferroelectric~~ ferroelectric structure is a wafer that is formed from a material selected from the group consisting of $LiNbO_3$ or $LiTaO_3$.

18. (currently amended) The method of claim 17, wherein the wafer is annealed in the presence of a corresponding Li-rich $LiNbO_3$ or a $LiTaO_3$ powder, thereby producing a low coercive field ~~Ferroelectric~~ ferroelectric wafer structure.

19. (currently amended) The method of claim 1, wherein the ~~Ferroelectric~~ ferroelectric material exhibits spontaneous domain reversal with changes in temperature of less than 40 degrees Celsius, wherein $\Delta T = q^{-1} \cdot \xi \cdot E_c$, and wherein q is the pyroelectric coefficient, ξ is the permitivity of the ~~Ferroelectric~~ ferroelectric and E_c is the coercive field.

20. (currently amended) The method of claim 1, wherein the ~~Ferroelectric~~ ferroelectric material exhibits spontaneous polarization with changes in temperature of less than 10 degrees Celsius, wherein $\Delta T = q^{-1} \cdot \xi \cdot E_c$ and wherein q is the pyroelectric coefficient, ξ is the permitivity of the ~~Ferroelectric~~ ferroelectric and E_c is the coercive field.

21. (currently amended) The method of claim 1, wherein the ~~Ferroelectric~~ ferroelectric material exhibits a coercive field value E_c of 3 kV/mm or less.

22. (currently amended) The method of claim 1, wherein the ~~Ferroelectric~~ ferroelectric material is a wafer with an edge surface and, wherein the conductive layer on the top surface of the wafer and the bottom surface of the wafer are deposited a distance within 2.0 mm or less from the edge surface.

23-32. (canceled)